

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 3 for Selected Projects Awarded Funding
Through the Alternative and Renewable Fuel and Vehicle
Technology Program Under Solicitation PON-09-006 to
Address a Location Change



CALIFORNIA
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Edmund G. Brown Jr., Governor

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ADDENDUM 3

Localized Health Impacts Report: For Selected Projects Awarded Funding through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-09-006 was posted May 28, 2010 (CEC-600-2010-005).¹ The assessment approach used in this addendum is as written in CEC-600-2010-005.

The South Coast Air Quality Management District (SCAQMD) “Ontario 76 CNG Infrastructure Installation” was analyzed in CEC-600-2010-005 as being located at 1850 East Holt Avenue, Ontario, California. Since the previous localized health impacts report, the SCAQMD proposed a new address for the project: 3140 E. Jurupa Street in Ontario, California. This addendum analyzes the community status and project in Table 1.

Table 1: Community Status and Project Overview

Project	At-Risk Community	CEQA Completed	Air District Permit Status	Attainment Status for Ozone, PM (2.5), PM (10)²
Ontario, CA	At-Risk	In Process	In Process	Ozone, PM 2.5, and PM 10

Source: California Energy Commission staff analysis

The location will have the surroundings shown in Table 2.

Table 2: Surroundings for the New Site Addresses

New Address	Surroundings (within a 1-mile radius)
3140 E. Jurupa St., Ontario, CA	No schools, daycare facilities, or health care facilities

Source: California Energy Commission staff analysis

Project-Generated Emissions

The proposed project changed from a CNG station to a liquefied natural gas (LNG) station, and the project proposer will integrate a new LNG dispenser at the fueling station. The project will increase the LNG storage capacity and fueling capacity of the station and as a result, fewer deliveries to supply on-site LNG tanks will occur. Furthermore, United Parcel Service (UPS) will be able to fuel more heavy-hauler trucks with LNG. It uses predominately diesel fuel for

1 Macias, Aleecia. 2010. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2010-005.

2 Particulate matter (PM) is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. PM is a chief component of exhaust emissions from heavy-duty diesel engines.

long-distance transportation and the LNG station will support newer trucks that replace diesel vehicles. No facility modifications are required for this project.

The *Full Fuel Cycle Assessment: Well-to-Wheels Energy Inputs, Emissions, and Water Impacts*, [CEC-600-2007-004-REV](#) (Appendix A), August 2007, summarizes the emissions of various fuels including ultra-low-sulfur diesel (ULSD) as well as LNG. The following data were extracted from CEC-600-2007-004-REV from the tables in Figure A-8 “Urban Buses, All Model Years” (scenario years 2012 and 2017 with blended vehicle year models) as no specific data were available for heavy-hauler trucks.

The data in Table 3 show that LNG produces slightly higher carbon dioxide (CO₂) and oxides of nitrogen (NO_x) emissions per mile and equal or lower amounts of toxic pollutants, large particulate matter (PM₁₀), and volatile organic compounds (VOC).

Table 3: ULSD and LNG Emissions,

Scenario Year 2012 (blend)			Scenario Year 2017 (blend)		
<u>Emissions (g/mi)</u>	<u>ULSD</u>	<u>LNG</u>	<u>Emissions (g/mi)</u>	<u>ULSD</u>	<u>LNG</u>
<u>Criteria (Total)</u>			<u>Criteria (Total)</u>		
VOC	1.199	1.157	VOC	1.138	1.083
CO	4.257	4.366	CO	3.857	3.927
NO _x	20.889	22.114	NO _x	18.935	19.718
PM ₁₀ (x10)	4.861	4.346	PM ₁₀ (x10)	4.497	4.02
<u>Toxic</u>			<u>Toxic</u>		
Benzene	0.078	0.0002	Benzene	0.073	0.00013
1-3 Butadiene	0.044	0.0002	1-3 Butadiene	0.041	0.00016
Formaldehyde	0.12	0.12	Formaldehyde	0.11	0.11
Acetaldehyde	0.027	0.027	Acetaldehyde	0.025	0.025
Diesel PM	16	16	Diesel PM	15	15

Source: *Full Fuel Cycle Assessment: Well-to-Wheels Energy Inputs, Emissions, and Water Impacts*, CEC-600-2007-004-REV.

Location Analysis

California Energy Commission staff reviewed results from the Environmental Justice Screening Method (EJSM) to determine whether the new location has EJ indicators.³ The EJSM was developed to help analyze the area in terms of air pollution exposure and health risks.

³ California ARB, *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

High-risk communities are identified using the following aspects: (1) location in nonattainment air basins for ozone, PM 10, and PM 2.5; (2) high poverty, minority population, and/or unemployment rates; and (3) high percentage of sensitive populations (under 5 years of age and over 65 years of age).

A high-risk community would both be located in nonattainment air basins and also have one or more of the other two factors. The 3140 E. Jurupa St., Ontario, location is in a nonattainment air basin for ozone and a nonattainment air basin for PM 2.5 and 10. Table 3 includes the demographics. The location has the following EJ indicators: minority population, poverty level, unemployment rate, and age. Based on this assessment and those for other projects funded under PON-09-006, the new location will not be disproportionately affected by the installation of LNG dispensing equipment at this location.

There will be no net increase in criteria and toxic air pollutants as a result of the equipment installation and increased traffic at the facility. The project is not expected to result in any adverse health effects in the location or the adjacent communities as a result of the installation of LNG gas dispensing equipment at this location.

Table 4: Demographic Data
(Percentage of total population)

Indicator	Ontario, CA
Below poverty level	15.5
Ethnicity	
Black	7.5
American Indian or Alaskan Native	1.1
Asian or Pacific Islander	4.3
Hispanic	59.9
White	47.8
Age	
< 5 years	9.7
> 65 years	5.9
Unemployment rate	15.3

Source: Unemployment Information, EDD Labor Market Information Division; Age/ethnicity demographics, U.S. Census <http://quickfacts.census.gov/qfd/index.html> and <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133>